

# Notice of Allowability

Application No.

10/784,079

Examiner

Shawn Riley

Applicant(s)

FISHMAN ET AL.

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## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to feb04 filing.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 04 February 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**SHAWN RILEY**  
**PRIMARY EXAMINER**

## **DETAILED ACTION**

### **Reasons for Allowance**

1. The following is an examiner's statement of reasons for allowance: No prior art uncovered anticipates or renders obvious applicant(s) claimed power supply for inductively heating or melting an electrically conductive material, including a plurality of second autotransformer output terminals comprising at least two autotransformer taps; and an at least one inductive load coil connected across the first autotransformer terminal and one of the plurality of second autotransformer terminals, the at least one inductive load coil, in combination with the connected impedance of the autotransformer, having an impedance so that it is at least approximately in resonance with the at least one tuning capacitor at the operating frequency of the inverter, whereby the electrically conductive material is inductively heated or melted by a magnetic field generated from the flow of the ac output current through the at least one inductive load coil.

Further, no prior art uncovered anticipates or renders obvious applicant(s) claimed method of inductively heating or melting an electrically conductive material including one of the plurality of second autotransformer terminals to generate a magnetic field that magnetically couples with the electrically conductive material to inductively heat or melt the electrically conductive material; and forming an at least approximately resonant circuit at the operating frequency of the inverter with the at least one inductive load coil in combination with the connected impedance of the autotransformer, and an at least one tuning capacitor disposed across the dc output power.

Further, no prior art uncovered anticipates or renders obvious applicant(s) power supply for inductively heating or melting an electrically conductive material, including an at least one tuning capacitor having a first and second tuning capacitor terminals, the first and second tuning capacitor terminals connected across the positive dc inverter input and the negative dc inverter input, respectively, the connection between the first tuning capacitor terminal and the positive dc inverter input formed from a thin electrically conductive sheet, the connection between the second tuning capacitor terminal and the negative dc inverter input formed from a second thin electrically conductive sheet, the first and second electrically conductive sheets separated by a thin layer of high dielectric electrical insulation and joined together to form a low inductance

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connection; an at least one inductive load coil connected across the first and second ac inverter output connections, the at least one inductive load coil having an inductance so that it is at least approximately in resonance with the at least one tuning capacitor at the operating frequency of the inverter, whereby the electrically conductive material is inductively heated or melted by a magnetic field generated from the flow of the ac output current through the at least one inductive load coil.

Finally, no prior art uncovered anticipates or renders obvious applicant(s) claimed method of inductively heating or melting an electrically conductive material, the method including the second connection between the second tuning capacitor terminal and the negative dc inverter input formed from a second thin electrically conductive sheet; separating the first and second thin electrically conductive sheets separated by a thin layer of high dielectric electrical insulation; joining the first and second thin electrically conductive sheets together with the intervening thin layer of high dielectric electrical insulation to form a low inductance connection; connecting the first and second ac inverter outputs to an at least one inductive load coil to generate a magnetic field that magnetically couples with the electrically conductive material to inductively heat or melt the electrically conductive material; and forming an at least approximately resonant circuit at the operating frequency of the inverter with the at least one inductive load coil and an the least one tuning capacitor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Allowable Subject Matter***

1. Claims 1-9 are allowable over the prior art of record.

#### ***Conclusion***

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press

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concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number 703.872.9306. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

March 05

  

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**Shawn Riley**  
**Primary Examiner**